

What is Claimed is:

1. A quick cooling device comprising:

a case having an inside space divided into a cavity and a device chamber;

a cavity door on a front part of the case for opening/closing the cavity;

5 means in the cavity, for bringing a cold accumulation pack into contact with a drink container, and shaking the cold accumulation pack and the drink container together, to cool down drink in the container, quickly; and

a refrigerating system in the case for cooling the cold accumulation pack.

10 2. The quick cooling device as claimed in claim 1, wherein the case includes an insulating material attached to an inside surface of the wall of the cavity.

3. The quick cooling device as claimed in claim 1, wherein the cavity door is hinge coupled to one side of the case.

15 4. The quick cooling device as claimed in claim 1, wherein the case includes a front plate attached to a surface having the cavity door attached thereto so as to be in contact with the cavity door, and having an opening to make the cavity in communication with an exterior.

20 5. The quick cooling device as claimed in claim 1, wherein the refrigerating system includes;

a compressor for compressing and transferring refrigerant,

a condenser for condensing transferred refrigerant,

an expansion device for expanding condensed refrigerant, and
an evaporator for cooling the cavity by using a heat absorption reaction taking place
when the expanded refrigerant is evaporated.

5 6. The quick cooling device as claimed in claim 5, wherein the compressor and the
condenser are in the device chamber.

7. The quick cooling device as claimed in claim 6, wherein the refrigerating system
further includes a fan for blowing air to the compressor and the condenser.

10 8. The quick cooling device as claimed in claim 7, wherein the case includes;
an air inlet adjacent to the fan for introducing external air into the device chamber,
and
an air outlet adjacent to the compressor and the condenser for discharging the air
15 cooled the compressor and the condenser to an exterior.

9. The quick cooling device as claimed in claim 5, wherein the evaporator is in the
cavity.

20 10. The quick cooling device as claimed in claim 9, wherein the refrigerating system
further includes a fan for supplying cold air around the evaporator to the cold accumulation
pack.

11. The quick cooling device as claimed in claim 1, wherein the cold accumulation

pack includes;

a cold accumulation material for being cooled down to a low temperature by the refrigerating system, and

a soft bag for storing the cold accumulation material therein.

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12. The quick cooling device as claimed in claim 11, wherein the cold accumulation material is a solution of sodium chloride, or potassium chloride.

13. The quick cooling device as claimed in claim 12, wherein the cold accumulation
10 material has a freezing point in a range of $-7^{\circ}\text{C} \sim -20^{\circ}\text{C}$.

14. The quick cooling device as claimed in claim 1, wherein the means includes;

a motor having a reversible rotation shaft,

a shaking case with many holes in the cavity for rotating following rotation of the
15 rotation shaft,

a low temperature cold accumulation pack in the shaking case for being brought into close contact with the container introduced into the shaking case, and rotating with the container, to cool down the drink in the container, quickly.

20 15. The quick cooling device as claimed in claim 14, wherein the means further includes;

a rotation guide having circular outside surface surrounding the shaking case, and

a plurality of rollers in the cavity in contact with the rotation guide for supporting the shaking case and guiding rotation of the rotation guide.

16. The quick cooling device as claimed in claim 14, wherein the shaking case includes;

a body with many holes having opened front part and upper part, and a space therein,

and

a shaking case door for opening/closing the front and upper parts of the body.

17. The quick cooling device as claimed in claim 16, wherein the cold accumulation pack is mounted on an underside of the shaking case door in a soft state.

18. The quick cooling device as claimed in claim 16, wherein the cold accumulation pack is mounted on the underside of the shaking case door and on a bottom surface of the body.

19. The quick cooling device as claimed in claim 1, wherein the means includes; first and second cold accumulation packs for surrounding an outside surface of the container with drink therein from opposite sides,

a frame in the cavity having the cold accumulation packs provided therein, and

a shaking device for rotating the frame repeatedly or reciprocating on a straight line.

20. The quick cooling device as claimed in claim 19, wherein the first and second cold accumulation packs are formed of a soft material for free deformation in conformity with an outside shape of the container with the drink.

21. The quick cooling device as claimed in claim 19, wherein the shaking device is a motor connected to one side of the frame for rotating the frame in left or right direction, or moving the frame back and forth.

5 22. The quick cooling device as claimed in claim 19, wherein the frame includes;
a base having one surface the cold accumulation pack fixed thereto, and one side the shaking device connected thereto,

an elevating plate having one surface opposite to the first cold accumulation pack the second cold accumulation pack fixed thereto, for moving up/down in a space over or under
10 the base, and

an elevating device for moving the elevating plate up/down.

23. The quick cooling device as claimed in claim 22, wherein the elevating device includes;

15 guide members each standing on the frame vertically and extended to pass through the elevating plate, and

a driving device for moving the elevating plate in an up/down direction along the members.

20 24. The quick cooling device as claimed in claim 23, wherein the driving device includes;

a driving motor fixed to one side of the frame,

a screw parallel to the guide members to be rotatable following rotation of the driving motor, and

a nut fixed to the elevating plate and engaged with the screw.